

# Chambers Range SERVICE MANUAL



Chambers Model C, Style 90



Chambers Model C, Style 61



Chambers Model C, Style 41

## "C" model ranges

### CONTENTS

	Page No.
Installation, Adjustment and Service.....	T-4, 11
Automatic Oven Pilot .....	3, 4
Broiler and Griddle Unit .....	5, 7-9
Burner Adjustments .....	3, 16
Cleaning Instructions .....	22
Condensation (Oven) .....	7
Conversion Data, Mixer Pins and Orifice Caps.....	14, 15
Dampers, Oven .....	10, 11
Door, oven and cabinet, springs and adjustment.....	10, 11, 12
Filter, Pilot .....	4
Name Plate Data .....	21
Panel Replacement, Porcelain .....	4, 5
Parts List .....	17, 18, 19
Thermostat .....	3, 5, 6, 11, 12
Thermowell Unit .....	6, 11
Thumb Latch Assembly .....	11
Timer .....	6, 10
Tools .....	26
Top, "Durochrome" .....	5
Valves and Manifold .....	10, 11, 13

Chambers Ranges INC.

2464 North Meridian  
Indianapolis 8, Indiana

## INSTALLATION, ADJUSTMENT & SERVICE INSTRUCTIONS FOR

### "C" series Chambers Gas Ranges

Basic models No. 90-C, 61-C and 41-C

#### DELIVERY TO DEALER:

All shipments are made F.O.B. Distributor's Warehouse and any claims for damage must be filed by the consignee. It is important that each range be carefully inspected at the time it is received by the dealer. If necessary, a representative of the delivering carrier can be called in to make his own in-

spection and report, which can be supplemented by the usual formal claim. Damage of concealed nature (that is, not noticeable until the time of uncrating) can be called to the attention of the carrier in the same manner by notification of intent to file claim.

## STEPS for Installing Range

**REMOVE CRATE:** Pull out all accessible rails around crate bottom and lift off entire crate. Break metal bands holding base assembly and top packing. Leg bolts, nuts, washers and base brackets are packed in Thermowell, or in service cabinet of non-Thermowell models.

**PUR ON LEG BOLTS:** Tilt range on appliance dolly and remove four bolts holding crate bottom to range. Place lock nuts on leg bolts and thread into tapped holes next to square holes from which crate bolts were removed. *Make sure lock nuts are tightened against corner gussets.* The range can now be placed on its legs.

#### INSTALL BACK PANEL

The Back (high or low) comes in a separate carton along with the insulated back, chrome tray and a paper envelope marked "Shims For Aligning Backs." See next page for detailed instructions and pictures.

#### ATTACH BASE BRACKETS

With sheet metal screws attach non-interchangeable base brackets in holes provided in lower part of rear range frame. The small folded edge of the bracket must protrude forward to receive clip attached to base and panel.

#### MAKE GAS CONNECTIONS

The gas connection should be made with  $\frac{3}{8}$ " copper or aluminum tubing with the proper fittings. The line from the meter should be rigid pipe, protruding through the floor a short distance from the base board, and should be provided with a shut-off valve. Under no circumstances should tubing go through the floor.

Ranges are flush to the wall and care should be taken to see that the rigid pipe is located back of the range between the two end panels. Remove the enamel tray in the service

cabinet of the range, giving access to the manifold. Hook tubing to rigid pipe back of the range, and make bends in tubing for correct alignment through round hole in back of range. Move range back next to wall and hook tubing to manifold. Check all joints for leaks with soap suds or pressure gauge.

#### LEVEL RANGE

First loosen lock nuts on adjustable leg bolts; then use a wrench on the square shoulders of the leg bolts to turn them to desired height. Check sides of cooking top with a level at least 9" long. Make top burner grates as level as possible in both directions. *After range is level, tighten lock nuts against range frame, making sure leg bolts do not move in the process.*

#### LEVEL OVEN RACK RUNNERS

There is approximately  $\frac{1}{8}$ " adjustment on the oven rack runners for leveling racks. Place level on oven rack and force rack runners up or down as desired. After oven rack is level place a shim, such as a nut or washer, under bottom end of rack runner and force runner down tight.

#### MAKE SURE RANGE IS FLUSH TO THE WALL

C Models are made to be pushed back until the entire back and end panel edges are touching wall. In some cases it may be necessary to notch out the base board to accomplish this.

#### ASSEMBLE AND PUT ON BASE

There are three black base panels, one front and two ends. Necessary bolts and base brackets are found with leg bolts. Assemble base ends to front. Place speed nuts on base front clips and bolt to base front panel with black bolts and washers. Place assembled base under range, forcing clips over leg bolts at same time making sure that base end panels slip onto brackets.

ADJUST BURNERS, PILOTS, ETC. *Continued on page 3*

# INSTRUCTIONS for Mounting Back Panels on the

## Chambers "C" model ranges

Super Deluxe (High) Back with Lamp  
Special Deluxe (Low) Back—no Lamp



1

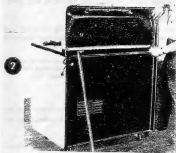
1. Remove molding from "Duracore" top before mounting back panel.
2. Insert one screw only in each corner, leaving nuts loose enough to slip molding in between "Duracore" top and bottom edge of panel. (See Fig. 2.)

3. Insert molding in one end as shown in Fig. 3. Slip flange of molding in between the Panel and range top and snap the molding in place on the opposite end—around the corner bolt. Now insert four bolts in the four remaining holes. Flare shoes provided are to be used between Duracore top and molding to fit back to proper alignment if necessary. As bolts are tightened, push molding in to a good snug fit against the back panel.

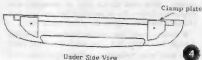
4. On Super Deluxe (High) Back Only: Remove nuts and clamp plates on under side of tray. Set tray as back, over opening, so that the flanges on tray are outside of flanges on back. Mount clamp plates on freended studs and run nuts up snug. Clamp plates must be positioned as illustrated—(See Fig. 4.)

5. Remove three bolts across top of body back. Place insulated back in position shown in Fig. 5 with the top of the flue vent forward of the back panel cross bar. Then slip the insulated back up into place strapping the 45° bottom flange over the main body back to make a snug fit. Replace the three bolts.

6. Hook up to gas and plug light rod into socket.



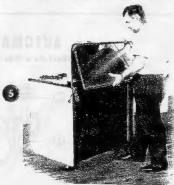
2



4



3



5

## ADJUST BURNERS IN THE FOLLOWING ORDER

### OVEN BURNER

Set thermostat dial at 400°, light oven burner and turn gas on full. Adjust flame by moving air shutter and orifice cap until there is a  $\frac{3}{4}$ " soft blue cone on each port. See Figure 17.

### OVEN SAFETY PILOT

Adjust safety pilot by moving the band adjustment pin located on right top side of Robertshaw thermostat inside the service cabinet. This yellow flame should be approximately  $\frac{1}{4}$ " high, and should touch the lead-up holes on front of oven burner to ignite burner if necessary.

### OVEN BY-PASS

Turn thermostat dial to 70° (two vertical marks on dial). Move band adjustment pin located on right bottom side of Robertshaw thermostat until minimum soft dead flame is NOT MORE THAN  $\frac{1}{8}$ " HIGH! By-pass flame should continue to burn when oven door is opened and closed normally with baffle plate in place. See Figure 17.

### THERMOSTAT ADJUSTMENT AND CALIBRATION

Place a reliable thermometer in center of the oven, light burner and set dial at 400°. Take a first reading at the end of twenty minutes and one additional reading at twenty-five minutes. If the readings are the same the oven temperature is constant and should correspond with the dial setting. If the temperature reading is more than 20° from the dial setting, pull off dial, loosen two small calibration screws and recalibrate as follows:

*Robertshaw Model 22005* (used on current production models): Move front sub-dial plate to correspond with temperature in oven. Do not move back dial plate and shaft (fastened together). Tighten screws and replace dial.

*Walcator Model 5400* (used on ranges serials #2-11016 through #2-10488): Both front and back sub-dial plates must move when recalibrating. Shaft must not move. Hold screwdriver or metal wedge in shaft slot, and set dial to

correspond with temperature in oven. Tighten screws and replace dial.

### BROILER BURNER

Light broiler burner and turn gas on full. Adjust flame by moving mixer shutter and orifice cap (accessible by removing rear top burner grate and drip ring) until a  $\frac{3}{4}$ " to  $\frac{5}{8}$ " soft blue cone is obtained. Make sure bolt holding mixer shutter is tight. See Figure 17.

Lay griddle-grease-drip-pan in place back of broiler box.

Griddle and Sizzling Platter should be moved up and down to check mechanical smoothness.

### THERMOWELL AND TOP BURNER PILOTS

Pilot adjusting screws are accessible through the service cabinet. Adjust both pilots to about  $\frac{1}{2}$ " height. These have no air adjustment; therefore burn with slightly yellow tip.

### TOP BURNERS AND THERMOWELL BURNER

Turn burner on full and adjust flame by moving mixer shutter and orifice cap until a  $\frac{3}{4}$ " soft blue cone is obtained. See Figure 17. Make sure bolt holding mixer shutter is tight after final adjustment. Attach flash tubes (packed in Thermowell) to pilot baffles, fit snugly into top burner flash ports.

### CHECK FOR LEAKS

Turn on each burner separately and check all joints and hook-up tubing for leaks. This can be done with soap suds or a pressure gauge.

**NOTE:** In setting timer, always turn dial at least  $\frac{1}{2}$  turn, before setting for desired time. This will fully wind the spring that operates the bell for a long continuous ring.

### BURNER INPUT

The correct Btu input may be found on the Orifice chart on page 15. Ranges equipped for Liquefied Petroleum Gas require no gas adjustment.

## AUTOMATIC OVEN PILOT (Robertshaw Gas Lighter, Model TS-11, Type C)



# AUTOMATIC OVEN PILOT

(Robertshaw Gas Lighter, Model TS-11, Type C)

Extra or optional equipment on all basic C-model console ranges.

This assembly will provide 100% shutoff (main and pilot gas) and main gas flow interruption for safe lighting. The pilot valve along with the main valve is controlled by an electromagnet and both close simultaneously in the event of pilot outage.

## TO LIGHT AND ADJUST AUTOMATIC OVEN PILOT

- 1) Turn off main burner gas supply valve.
- 2) Remove pilot adjusting cap (A) and turn pilot key to full open position.
- 3) Push red button (B) in firmly and light pilot burner (C). While holding red button (B) turn pilot key so that the flame completely envelopes the end  $\frac{3}{16}$  inch of the thermocouple (D). The pilot air shutter (E) should be positioned to produce a soft blue flame.

4) Allow pilot to burn one minute then release red button (B). Pilot should continue to burn. If it does not, press red button (B) and relight pilot, holding for a longer period.

5) Valve will now hold open permitting the free flow of gas to the main burner.

**NOTE:** Poor contact between the thermocouple lead and the electromagnet assembly may cause the valve to be inoperative even when the pilot is in proper adjustment and position. If so, the contact points should be cleaned and tightened. This is done by disconnecting thermocouple (D) and carefully cleaning the part that makes contact with the electromagnet assembly.

**Caution:** When retightening the thermocouple nut a small wrench (approx. 3 or 4 inches) should be used. Run nut down as far as possible with the fingers. Set lockwasher by making an additional  $\frac{1}{4}$  to  $\frac{1}{2}$  turn with the wrench.

## HOW TO REPLACE PANELS, DURACROME TOP, THERMOWELL AND OTHER PARTS

### 1. MAIN FRONT PANEL

The porcelain front is held in place by seven bolts—three at the top, three at the bottom, and one located between the timer and thermostat. One is reached through the hole in the front of the broiler box on the left side; one through the left front top burner opening in the center of the range, one through the right front top burner hole. The one between the timer and thermostat may be reached through the cabinet door. The three on the bottom are found: one underneath the cabinet bottom and two under the baffle plate in the oven. Remove thumb keys by lifting up and pulling out. Remove griddle lift, broiler adjustment, and gas valve handles by loosening  $\frac{1}{4}$ " Allen set screws. Remove keeper by inserting  $\frac{1}{4}$ " pin or screwdriver in hole on underneath side and back it off (counterclockwise) the threaded stud. Remove front by holding to each side and carefully pulling out.

### 2. END PANELS

The two end panels are interchangeable and can be removed by loosening (not removing) the two  $\frac{3}{16}$ " nuts located on

the bottom side of the panel; pull the panel out at the bottom until the top edge will drop down away from the Duracrome top. Shift the carriage bolts into the extra slots provided on the bottom edge of the panel, if panel is to be shifted to other side of range.

### 3. OUTSIDE OVEN DOOR PANEL

Remove the inside oven door lining by taking out the four bolts and asbestos washers from the four corners of the lining, also the entire amount of rock wool. The oven door handle block is removed by taking out three bolts, being careful not to lose the small sleeves which fit between the door block and the cast iron door frame. Remove four nuts at the corners of the cast door frame; drop door panel down, being careful not to chip on bottom side of door next to main front panel.

### 4. IMPORTANT

When replacing the oven door panel, the wool must be evenly and carefully distributed for the proper retention of heat.

## Dismantling of Assemblies, Etc.

### 5. CABINET DOOR PANEL

First, release the two springs which are attached to the hinge lugs, then remove the five bolts and asbestos washers from the inside cabinet door lining.

### 6. BODY BACK

The body back is held in place by eight bolts; three on each side of the range in the vertical angles, and two long bolts in the center of the oven.

### 7. OVEN DOOR

Remove oven door panel as described. Remove the two exposed flat head bolts on each side of the door which hold the door stops to the casing. Cut across the split ends of the two rivets holding the door to the hinge lugs and remove. Cast Iron Oven Doors are not interchangeable. If replacement is desired, both *Cast Front and Door* must be replaced.

### 8. OVEN FRONT

The Cast Iron Oven Front can be removed by removing main porcelain front panel as described. The two oven door springs must be removed from the bottom; also remove four bolts through the casing, two on the bottom and two on the top, which leaves the casing free to be pulled out at the top and then straight up, thus removing it.

### 9. OVEN DOOR SPRINGS

To remove or change the oven door springs, it is necessary to remove the porcelain front (as described) and one nut on each door stop rod. Care should be taken to replace the two guides on each end of the springs.

### 10. OVEN BACK BURNERS

Each burner is held in place by only one bolt through the back flange. The front flange slips in behind the cast iron front. The head of the bolt holding the left burner in place is accessible after the left end panel is removed. The bolt holding the right burner is accessible from inside the cabinet compartment.

### 11. BROILER BURNER

To remove the broiler burner, remove griddle by pulling straight forward. Place the right hand on the front of the burner; the left hand on the rear directly over the pin that points down. Pull up and out with the left hand which will free the burner.

### 12. GRIDDLE

If the griddle is not straight or level, it can be removed and straightened by striking it diagonally across the edge of a table or bench. It may also be straightened by inverting

and striking on the underneath side with a rubber or metal hammer. A wooden block should be used if a metal hammer is used. After the griddle is placed on the range, make sure the two contact supports are touching the Durachrome top in front and the four adjustable bolts support it in the center and rear. (See Chambers Idle Hour Cook Book and Cleaning Instructions in back of the manual for "Care of Griddle")

### 13. GRIDDLE LIFT HANDLE ADJUSTMENT

Remove the left end panel. Adjustment of the griddle lift handle can be made by loosening the lock nuts on the bolt attached to the broiler burner shaft assembly, and adjusting the link so that the griddle lift handle hangs vertically when the griddle is in the down position. See Fig. 2, Page 7.

### 14. TOP PILOT

Disconnect the aluminum tubing on the lower end of the pilot by loosening the  $\frac{1}{8}$ " nut. Unthread the pilot which is a  $\frac{3}{8}$ " hexagon. To remove the entire top pilot assembly, remove the slot head bolt which holds the bracket to the Durachrome top, located just left of the top pilot hole on the top.

### 15. THERMOWELL PILOT

Disconnect the aluminum tubing on the lower end of the pilot by removing the  $\frac{1}{8}$ " nut. Unthread the pilot which is a  $\frac{3}{8}$ " hexagon and remove from Thermowell.

### 16. THERMOSTAT

To remove the Thermostat, loosen the two  $\frac{3}{8}$ " tubing nuts, the  $\frac{3}{8}$ " pilot tubing nut, and bend tubing to allow removal from thermostat. Pull thermostat dial from the thermostat. (This is a friction fit.) Remove slot head bolt located under right front top burner which holds thermostat to bracket. Drop thermostat down into the storage compartment and carefully pull the capillary tube and bulb out of the oven. Extreme care should be exercised when removing or handling the tube and bulb.

### 17. DURACHROME TOP

Remove the back (high or low), the body back, and both end panels; separate the tubing from the mixer pin on the boiler, three top burners, Thermowell, and top pilots. Remove the griddle lift and broiler adjustment handles. There are five hexagon bolts which hold the Durachrome top; three across the front and one on each rear corner. The left front bolt is accessible through the front of the broiler box; the center front bolt through left front top burner opening; the right front bolt through right front burner opening; one slotted head bolt on each of the rear corners. Pull the top straight back until the griddle shaft clears the frame and remove. When removing the broiler box or Thermowell

## Dismantling of Assemblies, Etc.

assembly, the top should be inverted on a smooth padded surface.

### 18. BROILER BOX

The broiler box can be removed from the Dairycrome top (while the top is inverted) by removing six bolts and crab washers.

### 19. THERMOWELL UNIT

The Thermowell can be removed either with the Dairycrome top on or off the range. There are three bolts: one in front and two on either side in the back. It is necessary to remove the insulated back and the body back when Well is removed while on range. See Fig. 9, Page 10.

## HOW TO RE-CHECK TROUBLESOME THERMOSTATS

*If Thermostat does not respond to Calibration (see Calibrating Instructions), Then look for the following possible complaints:*

### 1. DIRT OR FOREIGN MATTER UNDER VALVE SEAT

Remove thermostats from range according to previous instructions. The thermostat is made in two sections and is held together with four bolts. After removing these bolts, the valve and seat can be cleaned and the thermostat re-assembled. Be sure the tube from the gas valve is on the inlet and the tube leading to the oven burner is on the outlet side of the openings, which are plainly marked.

### 2. BY-PASS AND SAFETY PILOT NOT ADJUSTED PROPERLY

If the by-pass is too high, the thermostat will not maintain a low enough temperature to bake properly. If it is too low, the burner will pop out. Correct flame is approximately  $\frac{1}{4}$ " high or a flame that stays on the burner when the oven door is opened and closed. Oven safety pilot approximately  $\frac{1}{2}$ ".

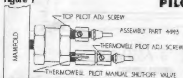
### 3. CAPILLARY TUBE AND BULB DAMAGED

To determine whether or not the thermostat has lost its charge; light the oven and turn the dial back to 70° or until it hits the stop. The flame should change from maximum  $\frac{3}{4}$ " to minimum  $\frac{1}{8}$ ". Turn dial up to 400° for 4 or 5 minutes and then turn back to stop again. If the charge is lost, the flame on the burner will not cut down until dial reaches stop. If the flame cuts down between 400° and the stop, the charge is not lost; therefore, calibration should be run with a mercury thermometer.

### 4. UNIT OUT OF CALIBRATION

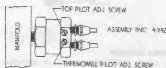
If the oven temperatures are incorrect, calibrate according to the instructions, "Thermostat Adjustment and Calibration."

Figure 1



PILOT FILTER ASSEMBLY  
FOR LP GASES ONLY

## PILOT FILTER



PILOT FILTER ASSEMBLY  
FOR ALL GASES EXCEPT LP GASES

## Change Timer

Pull dial straight off of the thermostat shaft. This is a press fit and may require a little pressure under each side of the dial. Remove the two  $\frac{1}{2}$ " flat head bolts found under the

dial with a screwdriver and pull Timer out from the back. Care should be taken not to lose the asbestos washer located between the Timer and the porcelain front.

## Cause and Correction of Condensation

There is an extreme temperature change in the oven when the burner is first lighted and as a result, drops of moisture will condense on the inside of the oven and door linings. Occasionally moisture will be present on the two sides of the oven door especially on the lower corners. This moisture may even run down and drop on the floor beneath the door.

There are several things that can be done to minimize this condition:

(1) Leave the oven door ajar for three or four minutes after lighting the oven; this will have a tendency to warm

up the door and front.

(2) Be sure the height of the oven burner does not exceed  $\frac{3}{4}$ " height.

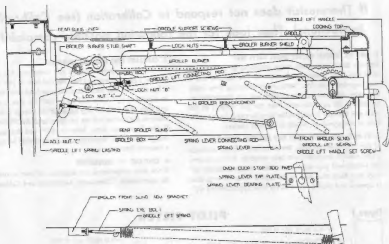
(3) Be sure the "Idle Hour" Cook Book is followed for the correct quantities of liquid to be used when cooking in the oven.

(4) Check the fit of the oven door and if necessary adjust the four set screws in the cast oven front so that the door is properly fitted.

(5) Always leave oven door ajar when oven is not in use.

Figure 2

## BROILER and GRIDDLE



## BROILER LEFT SIDE & ASSEMBLY

### GRIDDLE MECHANISM

To inspect, remove left end panel, per instructions. The Griddle Lift Handle must have the Allen Set Screw tight so that the Handle will turn the gears, which in turn will raise the Griddle. Lock Nut "A" and "B" in figure 2, can be adjusted so that the Griddle will raise and lower properly. If gears do not mesh properly, change Left Hand Broiler Box Reinforcement Assembly (Part No. S-160-C) per instructions.

### COUNTER-BALANCE GRIDDLE

Griddle Lift Spring (Part No. 3460) is designed to balance the weight of the Griddle, Burner, and Shield. By adjusting (Nut "C"), the tension on the Griddle Lift Spring can be increased or decreased to the desired amount.

### GRIDDLE SUPPORTS

The Griddle is supported on six points. Two at the front (on Duracrome Top), and four round head bolts (Griddle Support Screws) 10-24 x  $1\frac{1}{2}$ " with lock nuts and washers. Make sure Griddle is straight, before adjusting screws. If necessary, invert Griddle on floor and straighten with a mallet or hammer. When a hammer is used, place a board or piece of wood over Griddle before striking. The Griddle Support Screws should be adjusted so that the Griddle is parallel with the Duracrome Top.

### TO REMOVE GRIDDLE LIFT HANDLE (Part No. S-177-C)

Raise Griddle up so that Handle is in the lock position; loosen Hollow Head Allen Set Screw ( $\frac{1}{4}$ "-20 x  $\frac{3}{8}$ " with Allen Wrench; remove Handle.



Figure 3



## L.H. BROILER BOX REINFORCEMENT ASSEMBLY PART S-160-C

### LEFT HAND BROILER BOX REINFORCEMENT ASSEMBLY (Part No. S-160-C)

This reinforcement controls the movement of the Griddle and Burner, through the use of a front and side gear.

#### TO CHANGE REINFORCEMENT

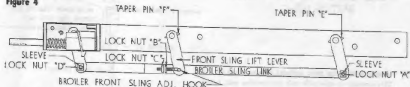
1. Remove left end panel (as described in this manual).
2. Remove front panel (as described in this manual).
3. Release broiler spring.
4. Remove  $\frac{1}{4}$ " hex nut and split washer which will free connecting bar.
5. Drive  $2/16 \times 1$ " taper pin out of rear sling lever (remove lever).

6. Pull left side of both slings through to inside of broiler box (with screwdriver).
7. Remove three bolts with asbestos washers (inside box).
8. Remove broiler box tie rod.
9. Pull assembly straight forward (if necessary move frame out to allow room on left front corner).
10. Replace with new assembly (make sure connecting bar adjustment is properly made).

#### GRIDDLE LIFT HANDLE ADJUSTMENT

View on the right shows (The Adjusting Screw), which locates the Griddle Lift Handle. When the Griddle is down, adjust Screw so the Handle is Vertical; tighten Lock Nut.

Figure 4



## R.H. BROILER BOX REINFORCEMENT ASSEMBLY PART S-122-C

### RIGHT HAND BROILER BOX REINFORCEMENT ASSEMBLY (Part No. S-122-C)

This mechanism controls the position of the front and rear Broiler Slings, which govern the Broiler Pan location.

#### TO REMOVE

Knock out Taper Pins "E" and "F"; remove both front and rear Sling Lift Levers, three bolts with heads accessible from inside broiler box. Remove broiler burner mixer pin bracket and front top burner bracket.

#### WHEN REMOVING BROILER SLING LINK (Part No. S-124-C)

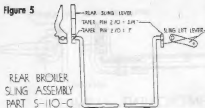
Save the two  $\frac{1}{4}$ " diameter sleeves on each end of the Broiler

Sling Link; use in reassembling; they prevent Lock Nuts "A" and "D" from binding on the link when tight.

#### TO LEVEL BROILER PAN (Part No. 4736)

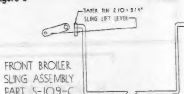
The Broiler Sling Link connects the front and rear slings. If the Broiler Pan is not level or parallel with the Duracome Top when Pan is in its highest position, the Broiler Front Sling Adjustment Hook can be adjusted by moving Lock nuts "B" and "C," threaded on the Adjusting Hook, which synchronizes front and rear slings. The rear Broiler Sling furnishes the power to raise and lower the Broiler Pan, which should slope slightly forward when in broiling position. See more details in figures 5 and 6.

Figure 5

**REAR BROILER SLING ASSEMBLY (Part No. 5-110-C)**

Replaceable only as a completely assembled unit. The Rear Sling Lever and the Sling Lift Lever, on the left and right ends respectively, are fastened with taper pins, which must be removed before removing or placing in broiler box. Care should be taken to place Rear Sling Lever and Sling Lift Lever in the same position as removed.

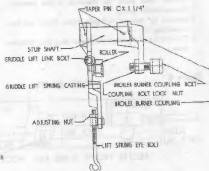
Figure 6

**FRONT BROILER SLING ASSEMBLY (Part No. 5-109-C)**

Replaceable only as a completely assembled unit. The Sling Lift Lever is fastened onto the end of the Sling with a taper pin which must be removed when removing assembly from range. Force one side of the sling into the inside of broiler box with a screwdriver to remove. When placing new assembly in box, care should be taken to place Sling Lift Lever on Sling in same position as removed.

Figure 7

### BROILER BURNER STUB SHAFT ASSEMBLY PART 5-167-C

**BROILER BURNER STUB SHAFT ASSEMBLY (Part No. 5-167-C)**

This assembly is replaceable only as a complete unit; holds and locates the Broiler Burner.

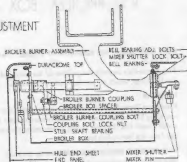
### BROILER BURNER & GRIDDLE ADJUSTMENT

Figure 8

**TO CENTER BROILER BURNER AND GRIDDLE**

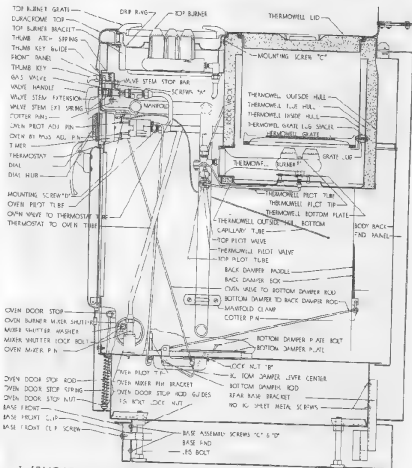
When Broiler Burner and Griddle are not centered in top opening, the following procedure will correct this condition. There are two adjustments for centering the burner.

1. If the Broiler Burner is crooked, loosen Two Bell Bearing Adjustment Bolts; force the front of the Burner the desired direction and distance; tighten bolts.
2. To move the entire Broiler Burner; loosen Coupling Bolt Lock Nut, pull Broiler Burner up out of Broiler Burner Coupling Bolt; thread Bolt in or out as desired, replace Burner and tighten Nut.



# **THERMOWELL, OVEN VALVE, MANIFOLD, DOOR SPRINGS, DAMPERS, and Etc.**

Figure 9



THERMOWELL, OVEN VALVE, MANIFOLD, DOOR SPRINGS, DAMPERS, & ETC

#### TO REMOVE THERMOWELL

Remove the (high or low insulated back when on range, body back, the gas tubes to the Thermowell burner and Pilot light. There are three bolts which support the weight of the Well. One bolt mounting screw "C" is accessible by removing the right front top burner, drip ring and grate. Another bolt is accessible when the rear top grate and drip ring are removed. The third bolt is found in the back, a little to the left of center and will require a long screwdriver to remove. When replacing Well, care should be taken to see that the inside Hall fits snug against the Ductronic Top.

#### THERMOWELL BURNER (Part No. 5-130-C)

Must be placed in the Well with locking tips in Burner Base. Correct lighting depends on this location.

#### THERMOWELL PILOT TIP (Part No. 4002)

To remove Tip loosen and remove tubing nut  $\frac{3}{32}$ " tube, ( $\frac{3}{16}$ " O.D.) Nut. Hold tip ( $\frac{3}{16}$ " O.D.) in Well and remove  $\frac{3}{16}$ " Nut on bottom side of Well.

#### NEVER IMMERSE THERMOWELL LID IN WATER

Wipe Lid with damp or soapy cloth, also wipe if necessary. Avoid cleaning porcelain Lid and Well lining while hot.

#### REPLACEMENT OF THERMOSTAT (Part No. 1200)

Remove Thermostat Bulb (accessible through utility compartment); pull Dial off, disconnect  $\frac{1}{8}$ " tube to manifold and oven burner, remove Mounting Screw (D) with screwdriver from top of Thermostat; dip back and down into compartment. Reverse the above procedure to replace, make sure Bulb is located correctly in oven.

If Thermostat does not function properly after it has been cleaned and an attempt has been made to calibrate it, we suggest replacement. When ordering parts always forward both Model and Serial number to your local Distributor.

#### TO REPLACE THUMB LATCH SPRING (Part No. C-34)

Remove top grate, drip ring and burner. Place a small piece of metal through top hole to guide spring into proper location, place one end of Spring over metal and force bottom end over extension which holds its location.

#### REMOVE AND REPLACE GAS VALVE (Part No. 5A-5-C)

To remove any Gas Valve, loosen nut, and free tubing, remove Valve Stem Stop Bar and pull Handle out from range until the extension clears the Valve Stem. The Valve is threaded into the manifold and can be removed with a  $\frac{1}{16}$ " or  $\frac{1}{8}$ " wrench. A good thread sealer such as (No. 2 Permatex) should be used before Valve is replaced in Manifold.

#### TO REMOVE AND REPLACE TIMER (Part No. 4718 and 4888)

Pull Dial straight off of Timer shaft (this is a press fit and

should be snug). Remove two flat head Bolts visible after Dial is off, pull Timer out from rear through utility compartment. When replacing, make sure asbestos washer is between Timer and front.

#### DAMPER PLATES

Both Bottom and Back Damper Plates are controlled by the Oven Valve Handle. The Bottom Damper Plate can be adjusted by removing the outside Cotter Pin (by the Oven Valve Handle) and increasing or decreasing the length of the Oven Gas-Valve-to-Bottom-Damper-Rod.

To change the tension on the Back Damper Paddle, remove the Cotter Pin on the back of the Bottom-Damper-to-Back-Damper Rod, increase or decrease the length of this Rod until the desired tension is obtained.

#### OVEN DOOR STOP SPRINGS (Part No. 4754)

To remove, or replace, loosen porcelain front so that the Oven Door Stop Spring Nuts are accessible, remove nuts which will free Spring. This Spring serves only as a counter-balance to the door, and has no connection with stopping the door in the open position or the tension when closed. Make sure there is an Oven-Door-Stop-Rod-Guide at top and bottom when replacing spring.

#### LEVEL RANGE WITH LEG BOLTS (Part No. 4287)

The Leg Bolts are threaded into the frame of the range and can be moved with open end wrench  $\frac{1}{2}$ " until top of range is level. Leg Bolts Lock Nuts should be tightened against frame after range is level. A level that will reach across the top grate (approx. 9") should be used. The Leg Bolt Lock Nut is taken from the grate bolts and placed on Leg Bolt before placing in range.

#### ASSEMBLY AND INSTALLATION OF BASE

Assemble Base, by bolting Base Front and two sides together with nuts and bolts "C" and "D", Fig. 10. Also place Base Front Clip on Base Front with bolts and spread nut provided. Place the two Rear Base Brackets on back of frame, using two metal screws placed in the top and third hole of the Brackets. Make sure the Brackets have the small folded edge protruding forward. Hold both sides of the base in while forcing Base Front Clips over Leg Bolts.

#### CABINET DOOR SPRINGS (Part No. 4787)

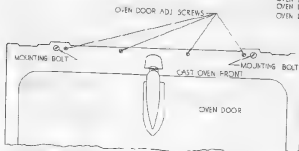
These Springs are not in Figure 9 Page 10 however it is necessary to remove the porcelain front to change.

#### CABINET DOOR ADJUSTMENT

If the cabinet door does not fit properly; loosen the four corner bolts which hold the lining to the panel. Fit the door in the opening so that it is straight and has the correct margins, tighten the four bolts securely.

Figure 10

## OVEN DOOR ADJUSTMENT

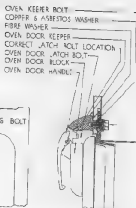


## ADJUSTMENT FOR OVEN DOOR FIT

Figure 9 shows four Oven Door Adjusting Screws, which can be adjusted in and out to make the Door fit properly. By moving either Mounting Bolt and adjusting the four Adjusting Screws, the oven door can be fitted (as most cases), without filing. It is necessary to remove the porcelain front before this adjustment can be made.

Figure 10 shows the correct location of the Oven Door Latch Bolt on the Oven Door Keeper. To apply more pressure, remove Keeper (by placing  $\frac{3}{16}$ " steel pin in hole and unthreading), then of Keeper so it can go in closer to front. Place washers on Oven Keeper Bolt if Keeper is to

Figure 11



be moved out. In this manner a good Oven Door Seal can be obtained.

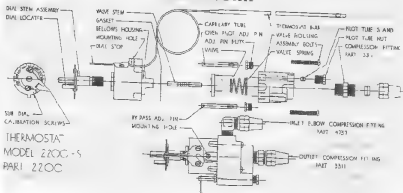
## TO CHANGE OVEN DOOR AND FRONT ASSEMBLY

(Part No. 5-145-C)

Remove porcelain front also the oven Door Strip Nut which will allow the oven Door Springs to be removed. The Cast Oven Front is bolted on the outside of the range frame with four bolts, two at the top and two on the bottom. When these four bolts are removed, pull out and up on the casting until Door Stop Rods are free. This may be changed without removing the door from the front.

Figure 12

## THERMOSTAT



#### COMPONENT PARTS OF MODEL 2200-S THERMOSTAT (Part No. 2200)

This thermostat is used on both 61 C and 91 C models, and when ordered will not carry fittings or dial.

#### THERMOSTAT DIAL AND NUT (Not Pictured)

The two parts are held together by two small 4-36 nuts, and fit over the Split Dial Stem. Care should be taken to make sure the Dial Locator engages as the Dial Nut Slot.

#### SUB DIAL AND CALIBRATION SCREWS

The Sub Dial Bolts to the Dia. Stem Assembly with two 4-36 bolts and must be moved without moving Split Stem when calibrating Thermostat, see page 5, paragraph 4, for calibrating instruction.

#### BELLOWS HOUSING

Holds the bellows, capillary tube, dial stop, and has Mounting Hole located on the top side.

#### GASKET

Located between the Bellows Housing and Valve Housing, makes a gas tight fit.

#### VALVE STEM

Connects Bellows with Valve so the flow of gas is controlled according to the oven temperature, care should be taken not to remove the lubricant from the stem, as it will not be gas tight, also place rounded end in valve.

#### VALVE

This Valve controls the flow of gas through the thermostat and moves according to pressure applied on Bellows. It may require deazing with a soft cloth occasionally.

#### VALVE SPRING

The small end of this Spring goes on the Valve and furmishes pressure at all times against the Valve.

#### BY-PASS ADJUSTING PIN

The Pin on the bottom (as you face the thermostat) is the By-Pass adjustment, and should be made when the Thermostat Dial is rotated counterclockwise as far as possible. The movement of the By-Pass Pin controls the flow of gas which by-passes the main valve.

#### SAFETY PILOT ADJUSTMENT PIN

This Pin is located on the top (as you face the Thermostat) above the By-Pass Pin, and controls the flow of gas to the Oven Pilot.

#### ADJUSTING PIN NUTS

Thread into the Housing and apply pressure to the lead washer to prevent gas leakage. Pins should be tight against the housing before the nuts are tightened.

#### ASSEMBLY BOLTS

There are four of these Bolts which hold the Valve Housing and Bellows Housing together.

#### INLET ELBOW COMPRESSION FITTING (Part No. 4737)

This brass fitting threads into the left side of the thermostat (marked inlet) and receives the tubing from the gas valve.

#### OUTLET COMPRESSION FITTING (Part No. 3511)

This brass bushing threads into the back side of the thermo-

stat (marked outlet) and receives the tubing leading to the oven burner.

#### PILOT TUBE NUT

Threads into the Valve Housing and holds oven pilot tubing.

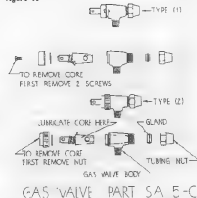
#### THERMOSTAT BULB AND CAPILLARY TUBE

The Thermostat Bulb locates in the back of the oven, directly in the baking zone and is charged with a fluid which expands and contracts according to the temperature applied to it.

The Capillary Tube connects the Thermostat bulb with the Bellows and should be handled carefully.

## GAS VALVE

Figure 13



#### GAS VALVE (Part No. SA-5-C)

Figure 13 shows both types Gas Valves used on "C" Model ranges. If a Valve is "leaking" or turns hard and needs lubricating, turn off gas to range, remove Valve Stem Stop Bar (see Fig. 9, Page 10), Pull Handle and Valve Stem Extension out until the Valve Stem is free. Next remove Nut on the two screws as shown in Figure 9, Page 10, type 1, and 2 (which ever type used). Pull core out and lubricate as indicated (Lubricate Core Here). Use only Chambers Valve Lubricant available from your local Distributor or the manufacturer. NEVER USE OIL AS A VALVE LUBRICANT.

#### BINDING GAS VALVES AND VALVE STEM EXTENSION

If the Valve Handle tends to bind when being turned on, lubricate between the Valve Stem Extension and Thumb Key Guide (Figure 9, Page 10). A graphite base valve lubricant or heat-resistant compound should be used.

If the Valve core is dry, shut off gas supply, remove Valve Stem Stop Bar, (see Fig. 9, Page 10), pull extension forward to clear Valve and lubricate core (see Fig. 13).

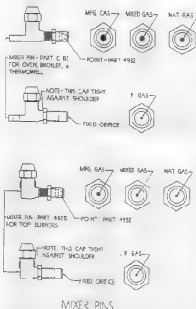
## Gas Conversion

### 1. CONVERSION WITH SOLID MIXER PIN POINT

When changing from Liquefied Petroleum Gas to any other gas and the solid Mixer Pin Point is used, it is necessary to change all Orifice Caps according to the chart for solid Mixer Pin Points, page 15. When converting from all other gases to Liquefied Petroleum and the solid Mixer Pin Point is used, it is also necessary to change all Orifice Caps, see page 15, make sure long Cap is tight against shoulder and a good thread sealer is used. Remove the solid mixer pin point.

### MIXER PIN

Figure 14



#### MIXER PIN (Part No. C-82) (Part No. 4825)

Figure 14 shows two types of Mixer Pins. Pins bearing (Part No. C-82) are used on the Oven, Broiler and Thermowell. Pins bearing (Part No. 4825) are used on the three Top Burners.

### 2. CONVERSION WITH UNIVERSAL MIXER PIN POINT

The Universal Mixer Pin is equipped with a Point ended out for (L.P.) or Bottled Gas on all ranges. If the range is built by the Manufacturer for Bottled Gas, the Orifice Cap is tight against the Mixer Pin Point. If the range is built for any other gas, the Orifice Cap will be adjusted to supply the height flame desired according to Figure 17. Page 16. For conversion in the field follow these same instructions.

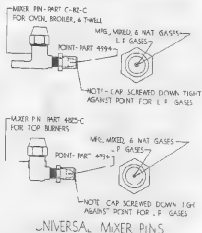
All Liquefied Petroleum Gases require Fixed Orifice Caps, which are longer and threaded tight against shoulder as shown in this figure. When placing long (LP) Orifice Caps on Mixer Pins, a good sealer such as No. 2 Permatex should be used.

All other Gases require the short Orifice Caps with the Mixer Pin Point in the Mixer Pins for adjusting the flow of gas.

Mixer Pin Points may be removed or replaced in the Mixer Pins.

### UNIVERSAL MIXER PIN

Figure 15



#### UNIVERSAL MIXER PINS

#### UNIVERSAL MIXER PINS

For Liquefied Petroleum Gases the Orifice Cap must be tight against the Point. For all other gases adjust the Orifice Cap in the regular way so that the proper height flame is obtained. See Fig. 17. Page 16.

## "C" MODEL ORIFICE SIZES

(Universal Mixer Pin Point)

	Gas	BTU Value	Pressure	Point Drill Size	Cap Drill Size	BTU Input Per Hr.
OVEN	Mild	570	5"	#33	#20	21000
	Mixed	800	7"	#33	#20	21000
	Natural	1050	7"	#33	#20	21000
	Propane	2500	11"	#33	#20	21000
	Butane	3300	11"	#33	#20	21000
BROILER	Mild	570	5"	#36	#39	15000
	Mixed	800	7"	#36	#39	15000
	Natural	1050	7"	#36	#39	15000
	Propane	2500	11"	#36	#39	15000
	Butane	3300	11"	#36	#39	15000
TOP	Mild	570	5"	#68	#46	9000
	Mixed	800	7"	#68	#46	9000
	Natural	1050	7"	#68	#46	9000
	Propane	2500	11"	#68	#46	7500
	Butane	3300	11"	#68	#46	7500
WELL	Mild	570	5"	#68	#46	9000
	Mixed	800	7"	#68	#46	9000
	Natural	1050	7"	#68	#46	9000
	Propane	2500	11"	#68	#46	7500
	Butane	3300	11"	#68	#46	7500

## "C" MODEL ORIFICE SIZES

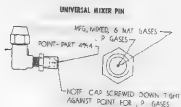
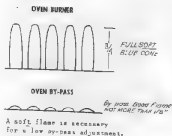
Solid Mixer Pin Point

OVEN	Mild	570	5"	#20	21000
	Mixed	800	7"	#20	21000
	Natural	1050	7"	#46	21000
	Propane	2500	11"	#33	21000
	Butane	3300	11"	#33	21000
BROILER	Mild	570	5"	#39	15000
	Mixed	800	7"	#39	15000
	Natural	1050	7"	#46	15000
	Propane	2500	11"	#36	15000
	Butane	3300	11"	#36	15000
TOP	Mild	570	5"	#46	9000
	Mixed	800	7"	#46	9000
	Natural	1050	7"	#34	9000
	Propane	2500	11"	#68	7500
	Butane	3300	11"	#68	7500
WELL	Mild	570	5"	#46	9000
	Mixed	800	7"	#46	9000
	Natural	1050	7"	#34	9000
	Propane	2500	11"	#68	7500
	Butane	3300	11"	#68	7500



## FLAME HEIGHT FOR EACH BURNER

Figure 17



### LOWER FLAMES ON LP GAS

Burner flames on bottled and tank gases are lower than those illustrated. On LP gas, orifice caps should be screwed down tight on universal mixer pin with gas admitted only through mixer pin points. (See above sketch.)

## PROPER FLAME HEIGHTS AND BTU INPUTS

### TOP BURNER (Part No. 5-120-C)

The three Top Burners should have a soft blue flame of approximately  $\frac{3}{8}$ " in height for all gases. Liquefied Petroleum Gas has fixed orifice caps and therefore requires no gas adjustment. The primary air adjustment is made by loosening the bolt going through the burner and moving the flat plate (air shutter) on the bottom until the proper flame is obtained. The same burner is used for all gases. The correct B.t.u. input is 7500 B.t.u. per hr. (LP Gas); 9000 B.t.u. per hr. for all other gases.

### THERMOWELL BURNER (Part No. 5-120-C)

The Thermowell Burner should have a soft blue flame of approximately  $\frac{3}{8}$ " in height for all gases. Liquefied Petroleum Gas has a fixed orifice and requires air adjustment only. The primary air is adjusted by moving the Air Shutter on the front of the Burner accessible through the Cabinet Door.

Correct input, 7500 B.t.u. per hr. for LP gas 9000 B.t.u. per hr. for all other gases.

### BROILER BURNER (Part No. 5-114-C)

Correct flame on the Broiler Burner is between  $\frac{1}{4}$ " and  $\frac{3}{8}$ ", soft blue cone on all gases. Liquefied Petroleum Gas requires no gas adjustment, having a fixed orifice. To adjust the Gas and Air, remove the rear Top Grate and Drip Ring. Correct input is 5000 B.t.u. per hr. for all gases.

### OVEN BURNER (Part No. 5-120-C)

The Oven Burner should have approximately  $\frac{3}{4}$ " soft blue cone, when on maximum and a By-Pass of not more than  $\frac{1}{8}$ ". Liquefied Petroleum Gas has a fixed orifice cap and requires air adjustment only. Remove the cabinet bottom to adjust both Gas and Air. The correct input is 21000 B.t.u. per hr. for all gases.

# Chambers RANGE PARTS LIST "C" MODEL

## WORKING TOP, GAS EQUIPMENT, TIMER & HARDWARE

### Part No.

C-15	Oven Door Keeper
C-36	Thumb Latch Spring
C-1155	Speed Nut (U Type)
S-113-C	Thumb Latch Assembly
S-120-C	Top Burner Assembly
S-154-C	Manifold Assembly
S-154-FWC	Manifold Assembly
S-177-C	Griddle Tip Handle Assembly
S-178-C	Broiler Pan Lift Holder Assembly
S-182-C	Timer Dial Assembly
S-183-C	Thermostat Dial Assembly
SA-5-C	Gas Valve Assembly
SA-7-C	Valve Stem Extension & Scrap Disk Assembly
SA-40-C	Pilot Valve & Filter Sub Assembly
3510	Pilot Pin Lock
3823	1/8" Nipple (4 1/2" Long)
3933	B-Handle Valve
3931	Thumb Key (Flat)
4001	Top Pilot Cover
4002	Top Pilot Tip
4026	Flash Tube
4177	Top Pilot Ring & Tube Assembly
4188-C	Wave Stem Spring
4204	Manifold Bracket
4233	1/4" Standard Pipe Plug
4230	Knurled Point Allen Head Set Screw
4256	Fiber Washer (3/8" I.D.)
4264	1/8" Pipe Tee
4267	1/8" Close Nipple
4304	1/8" Standard Street El
4679	Pilot Filter
4716	Orifice Cap (L.P.)
4718	Timer Square Shaft (To serial 1-4301)
4740	Duracrome Cooking Top (To serial 2-9108)
4764	Deep Ring (To serial 2-9108)
4767	Top Burner Bracket
4771	Top Pilot Cover Plate
4775	Top Burner Mixer Shutter
4785	Valve Stem Lock Bar
4799	Top Pilot Shield
4802	Gas Cock Handle
4810	Top Pilot Bracket
4821	Top Pilot Bracket Clip
4825	Mixer Pin
4825-C	Mixer Pin (Universal)

### Part No.

4855	Timer Dial
4856	Time & Thermostat Dial Hub (Square on Split Shaft)
4859	Orifice Cap (Butane Air)
4863	Thermostat Dial
4888	Timer (Split Shaft) From serial 1-4402, All 1-U and 2 prenx serials
4893	3/4" Pipe to 3/8" Tube (Elb Connection)
4902	3/8" Aluminum Tube with Flare Nuts
4904	Right Front Burner Tube
4905	Left Front Burner Tube
4907	Back Burner Tube
4910	Oven Pilot Tube
4913	Top Pilot Tube
4924	Top Grate (To serial 2-9108)
4928	Timer Gasket
4932	1/4" Pipe Scrap
4971	Thermostat & Cook Dial Hubs (Split Shaft)
4981	Orifice Cap (Regular)
4982	Mixer Pin Point
4983	Fiber Washer (3/8" I.D. x 7/8" O.D.)
4987	3/4" Tube Gland
4988	3/4" Tube Nut
4989	3/4" to 3/4" Fitting
4992	Filter Assembly (Regular)
4993	Filter Assembly (L.P.)
4994	Mixer Pin Point (L.P.)

### \* Duracrome Top Mounting Bolts (Hex 10-24 x 1/2")

5275	Thumb Latch Key
5296	Cooking Top (From serial 2-9129)
5385	Top Grate—Finger (From serial 2-9109)
5466	Top Grate—Small Pan (From serial 2-9109)
5459	Top Grate—Small Pan (From serial 2-9108)

## OVEN

### Part No.

C-15 C	Cabinet Door Block
C-82	Mixer Pin
C-82 C	Mixer Pin (Universal)
C-420	Oven Window
C-516-C	Air Mixer Shutter
C-1150	Speed Nut
C-2330	Thermostat Bolt Clip
C-2852	Insulation Clip
D-674	Cabinet Door Hinge Pin
D-2529 C	Oven Burner Bell Tube
S-103-A	Oven Inside Hull Assembly
S-105-C	Oven Back Dumper Box Assembly
S-106-C	Bottom Dumper Box Assembly
S-139-C	Oven Burner Assembly

## OVEN (Continued)

### Part No.

5-145-C	Oven Door and Front Assembly
5-148-C	Oven Door Block Assembly
5-176-CL	Oven Door Stop Assembly (Left)
5-176-CR	Oven Door Stop Assembly (Right)
111	Cabinet Door Bumper
2200S	Thermostat—Robertsaw*
3311	Thermostat Tube Connector ( $\frac{3}{8}$ " Straight)
3325	Oven Runner Washer
3329	Mixer Shutter Washer
3336	Oven Mica
3801	Door Handle Screw Assembly
4002	Oven Pilot Tip
4007-C	Oven Valve-To-Bottom-Damper-Rod
4018	Oven Door Handle
4062-C	Oven Inside Hull Bottom
4075	Oven Burner Rest
4076	Bottom Damper Plate
4102	Oven Mixer Pin Bracket
4104-C	Bottom-Damper-To-Back Damper-Rod
4110-C	Oven Burner
4124	Oven Burner Flash Tube Bracket
4125	Oven Burner Flash Tube Clamp
4126	Oven Burner Flash Tube
4129	Oven Heat Shield Clip
4144	Oven Door Block Sleeve ( $1\frac{1}{4}$ " x $5\frac{1}{32}$ ")
4683	Oven Door Hinge Pin
4713	Oven Door Block Gasket
4716	Orifice Cap (L.P.)
4732	Baffle Plate
4733	Oven Runner
4737	Thermostat Tube Connector ( $\frac{3}{8}$ " Elbow)
4744	Oven Outside Top
4748	Cabinet Door Hinge Leaf
4750-C	Oven Door Heat Shield
4754	Oven Door Stop Spring
4786	Oven Door Stop Rod/Guide
4787	Cabinet Door Springs
4791	Cabinet Door Spring Clip
4795	Side Insulation (Asbestos) (R & L)
4856	Thermostat & Clock Dual Hubs (Square Shaft)
4859	Orifice Cap (Butane Propane Air)
4906	Thermostat Tube
4909	Oven Burner Tube
4910	Oven Pilot Tube
4972	Asbestos Wicking ( $\frac{1}{8}$ ")
4981	Orifice Cap (Regulator)
4982	Mixer Pin Point
4986	Oven Door Keeper Bolt
4990	Oven Pilot Tube Gland ( $5\frac{1}{32}$ ")
4991	Thermostat Pilot Tube Nut
4994	Mixer Pin Point (L.P.)
C-82	Mixer Pin
C-82-C	Mixer Pin (Universal)
S-125-C	Thermowell Lin

## THERMOWELL

### Part No.

5-130-C	Thermowell Burner Assembly
5-143-C	Thermowell Outs of Hull Bottom Assembly
5-170-C	Thermowell Inside Hull Assembly
5-171-C	Thermowell Pilot Head Assembly
5-175-C	Thermowell Assembly (Complete)
3329	Mixer Shutter Washer
4002	Thermowell Pilot Tip
4716	Orifice Cap (L.P.)
4755	Thermowell Outside Hull
4758	Thermowell Gasket
4768	Thermowell Burner Rest
4783	Thermowell Gasket Lug
4790	Thermowell Gasket Lug Space
4820	Thermowell Front Tube
4835	Thermowell Mica
4839	Orifice Cap (Butane & Propane Air)
4903	Thermowell Burner Tube
4911	Thermowell Pilot Tubing
4981	Orifice Cap (Regulator)
4982	Mixer Pin Point
4994	Mixer Pin Point (Universal)
5063	Oven Rack
1400	Thermowell—Wickolator**
3464	Bellows Assembly for Wickolator thermostat (2400)
8094	Dialstat Assembly for Robertsaw thermostat (2200S)

## IN-A-TOP BROILER & GRIDDLE

### Part No.

C-82	Mixer Pin
C-82-C	Mixer Pin (Universal)
C-516-C	Air Mixer Shutter
C-467-C	Broiler Front Sling Adjusting Hook
S-102-C	Broiler Box Assembly
S-109-C	Broiler Pan Sling Assembly (Front)
S-110-C	Broiler Pan Sling Assembly (Rear)
S-114-C	Broiler Burner Assembly
S-122-C	RH Broiler Box Reinforcement Assembly
S-124-C	Broiler Sling Link Assembly
S-160-C	Left Broiler Box Reinforcement Assembly
S-167-C	Broiler Stub Shaft Assembly
5A-6-C	Broiler Sling Left Cam & Shaft Assembly
3529	Mixer Shutter Washer
3992-C	Broiler Left Spring Eye Bol
4144	Sling Link Sleeve ( $1\frac{1}{4}$ " x $5\frac{1}{32}$ ")
4203	Broiler Cam Shaft Spring
4514	Grease Cap
4716	Orifice Cap (L.P.)
4756	Broiler Pan
4758	Groddle, cast aluminum
4756	Broiler Burner Heat Shield
4772	Broiler Burner Shaft Bearing

\*Used on all console C models except serials from 2-11016—2-18489

\*\*Used on console C models serials 2-11015 to and including 2-18488.

**Part No.**

4773	Broiler Burner Bel. Bearing
4778	Broiler Box Spacer
4780	Broiler Box Tie Rod
4792	Broiler Box
4827	Broiler Coupling Bolt & Nut
4844	Broiler Burner Mixer Pin Bracket
4859	Orifice Cap (Butane & Propane Air)
4908	Broiler Burner Tubing
4981	Orifice Cap (Regular)
4982	Mixer Pin Pump
4994	Mixer Pin Pump (L.P.)
5001	Gridlike Lift Spring
5015	Griddle, Stamped Aluminum

## ENAMELED PANELS AND RELATED PARTS

**Part No.**

C-52	Oven Door Panel (White or Color)
C-72	Panel Belt Holder
D-653-C	Cabinet Door Liner (Stipple)
D-651	Cabinet Door Panel (White or Color)
SA-41-C	Assessment Base Panel Bolts
4016-C	Cabinet Bottom (Stipple)
4059-C	Base Panel (Front)
4077-L	Base Bracket (Left)
4077-R	Base Bracket (Right)
4142	Oven Door Liner (Stipple)
4182	Base Panel (End)
4759	End Panel (White or Color)
4808	Front Panel (White or Color)
4813	Super-Deluxe Back Panel (White or Color)
4838	Special-Deluxe Back Panel (White or Color)
4838-JC	Special-Deluxe Back Panel (White or Color)
4933	End Panel Reinforcement
	Back Panel Mounting Bolts (Hex 10-24-1/2")

**BACKS,****ELECTRICAL EQUIPMENT,****NAME PLATES,****ETC.****Part No.**

C-1037	Push On Speed Nuts (1/8" Stud)
C-1153	Speed Nut (U Type)
C-8022	Lamp Box Speed Nut (6/32)
SA-30-C	Low Insulated Back Assembly
SA-31-C	High Insulated Back
1135	Flare Collar
4185	Lamp Cord
4268	Filter Grommet
4287	Leg Bolt
4816	Top Tray
4816-FC	Top Tray for Flare Collar
4836	T-Molding
4839	Lamp Housing
4840	Lamp Bezel
4841	Lamp Glass
4845	'Chambers' Name Plate
4894	Body Back
4919	Flare Collar Hole Plate
4925	Top Tray Clamp Plate
4929	Back Panel Leveling Shims
4967	Lamp Switch Washer
4973	Lamp Bulb
4974	Lamp Switch
4975	Lamp Holder & Cap
4976	Ideal Connector
4977	Lamp Cord
4978	Heyco Stranded Relief Bushing
4980	Lamp Switch Knurled Nut
7344	'Chambers' scroll name plate

# TOOLS

TOOLS recommended by Chambers for installation and service of all models Chambers Ranges.

Name of Tool	Size	Used for
Wrench (open end)	5/16" x 3/8"	Pilot tube nuts, cooking top, end panels, etc.
Wrench (open end)	7/16" x 1/2"	All 1/4" nuts, gridfile adjustment bolts, leg bolts, etc.
Wrench (open end)	9/16" x 5/8"	Orifice caps, burner tubing, etc.
Wrench (open end)	3/4" x 13/16"	Crate nut leg bolt lock nuts.
Wrench (pipe)	6"	General use.
Wrench (pipe)	14" or 16"	Hook-up pipe, etc.
Wrench (Allen)	1/8" (for 1/4"-20 Allen set screw)	All handle set screws, available through factory.
Wrench (box)	3/8" opening	All 3/16" nuts, panels, etc., available through factory.
Screw Driver	3/16" width 10" handle	Thermostat, pilots, burners, etc.
Screw Driver	5/16" or 3/8" width 10" handle	General use.
Hammer (small ball-peen)	1/2 or 3/4 lb.	General use.
Drift or punch	4/32"	Removing tapered pins, etc.
Level (metal)	9" (no shorter)	Leveling range, oven, etc.
Thermometer	mercury (any reliable make)	Calibrating Oven.
File (flat bastard)	16"	Dressing oven doors.
File (flat mill)	8"	General use.
File (round or rat tail)	8"	General use.
Graphite	(1 oz. can)	Lubricate gas valves, etc.
Oil can	(small)	Broiler, other, general.
Pliers	(medium size)	General use.
Drills	(from #20 to #70) (or just orifice sizes)	Check orifice sizes.
Electric Drill	(1/4" chuck)	General use, (optional)

## MANUFACTURER'S NAME PLATE

The Name Plate on all "C" Models may be seen by removing the right front Grate, Drip Ring and Top Baffle. The tag carries the style or model number, serial number, as well as the BTU input per hour for all burners. If the

range is constructed for Liquefied Petroleum Gas, the Name Plate will carry a slightly different reading. When ordering parts, always advise Model and Serial Numbers to the Distributor.

### SERVICE POLICY

Porcelain enamel is essentially glass and is therefore breakable like any piece of glassware. Before ranges leave the Manufacturer, they are thoroughly inspected and in good condition when turned over to the transportation company.

The Factory cannot assume responsibility for damaged enamel, therefore, it is important that dealers (for self protection) file claim with the delivering carrier for any porcelain damage that may show upon delivery. By following this procedure, full recovery for the value of parts involved may be obtained from the transportation company.

Credit cannot be allowed for chipped porcelain, therefore, please do not return such parts to the Manufacturer as they will not be accepted.

The crating and packaging of Chambers Ranges conforms to the rigid requirements of National Safe Transit Committee.

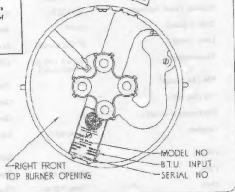
Figure 18



## 25 YEARS GUARANTY

Chambers guarantees to replace all burners, cast iron baffle plate and valve handles in this range, should such parts wear out during normal use and operation within 25 years after date of installation.

The external finish of these parts, while of the finest quality, is subject to normal wear, and hence excluded from the terms of the Guaranty.



## LOCATION OF NAME PLATE

## CLEANING INSTRUCTIONS

### WASH AFTER EACH USING

Soiled parts should be washed with mild soap suds, just as you do your cooking utensils. If necessary, scour with any popular non-abrasive scouring powder. This applies alike to porcelain enamel, plated and polished metal parts.

### COOKING TOP—DURACROME OR PORCELAIN ENAMEL

This top can usually be kept immaculate with soap and water. For occasional resistant spots, a paste or liquid cleanser should suffice. Never use steel wool or any abrasive material on the chromium top or Thermowell lid.

Lactic acid in milk, fruit juices and even minerals in drinking water will spot porcelain if not removed promptly. Wipe off boil-overs at once.

Don't subject porcelain to sudden temperature changes; it is glass fused on metal. Use a hot, damp cloth to wipe off spots on hot porcelain.

### CARE OF ANTIQUE COPPER PANELS

Simply wipe copper panels with a soft rag, using warm water and any standard detergent, such as Dreft, Tide, Cheer, Vel, Fab, Trend, Surf, Joy, etc. Remove stains and boil-overs promptly. **WARNING:** Do not use copper polish, steel wool or scouring pads.

### ALWAYS WIPE OFF GRIDDLE

Little splatterings from top stove cooking are not conspicuous until griddle gets hot; then they burn in and turn black. Always wipe off griddle before lighting broiler burner. Griddle covers are available as an accessory through your Chambers Range Dealer.

### IF FOODS STICK TO THE GRIDDLE, THE FLAME IS PROBABLY TOO HIGH

Test temperature for "the dancing drop of water" as explained on page 67, "Idle Hour Cook Book." Griddle is not considered "greaseless," though only a little fat is required for foods containing liberal amounts of shortening. If pancake batter is enriched with melted shortening, then the griddle can be greased very lightly.

### YOUR GRIDDLE IS A COOKING UTENSIL

Clean it and control its temperature as you would for any separate skillet or griddle. It can be removed and scoured in the sink.

### SOAK GRIDDLE WHILE IT COOLS

Before the griddle cools completely after use, shake scouring powder on it and pour on a cup or two of water. Soak up water with paper or cloth when ready to remove griddle from range to wash with pots and pans.

### "COOK OFF" BADLY BURNED SPOTS ON GRIDDLE

Light a small flame under it; shake on scouring powder, and pour on water. Cook gently. Then sink a 4-tined fork into a steel wool soap pad such as SOS or Brillo (so you won't burn yourself or scratch the griddle either), and carefully push the pad over the hot griddle. "Hot scouring" is much more effective than "cold." This should never be needed if the preceding preventive measures are used.

### NEVER IMMERSE "THERMOWELL" LID IN WATER.

Wipe off, or scour porcelain lining, but not in a dishwasher of water.

### TO CLEAN OUT BOTTOM OF "THERMOWELL"

Lift out grate and burner. Smooth out the Thermowell pilot with your damp dish cloth; the amount of gas that escapes during a short cleaning process is not harmful.

Place a paper in the service cabinet under the Thermowell burner opening. Scrape dry dirt and waste through this opening, onto the paper, with pancake turner or spatula. The paper is easy to remove. Wipe off bottom and sides with damp, soapy cloth, scouring if necessary; then wipe dry. With grate and drip ring removed from right front burner, replace Thermowell burner over its orifice cap. Relight pilot, and replace grate.

### TO CLEAN OVEN

Wipe off (and scour if necessary) walls, door, racks, runners on which racks rest, and cast door frames. Baffle plate can be removed for cleaning. Oven heat turns color of racks and door frames to a bronze tone; this will not scrub off; it is inherent in the metal. Cast iron oven door frames can be wiped with oyl cloth to help eliminate that rusty look which sometimes appears on these cast parts. Remove the loose bottom of the service cabinet to place oven burner over its orifice cap properly.

### INDIVIDUAL OVEN DRIP RINGS

The drip rings around top burners can be removed easily to be washed with the dishes.

### TO CLEAN TOP BURNERS

Wipe off with damp, soapy cloth. If you cook on retained heat, and take full advantage of your Chambers Range, these top burners will go for weeks with very little cleaning necessary.

If holes are stopped up, open with a heavy pin or an ice pick or similar pointed instrument. Lift burners out and shake to dislodge offending particles. Be sure to replace burners and put pilot tubes firmly in place.

### CLEAN INSIDE BROILER BOX

Scour if necessary as you would porcelain cooking utensils. Sintering Plaster can be washed with the dishes, but sometimes it is easier to clean if you will put it back in place, pour water into it, and reheat it under the broiler burner. Always have the little grease cap in place at back of broiler box.

### REMOVE BASE FOR CLEANING

To remove base, pull straight forward. To replace, push base under range so clips touch leg bolts; use both hands and place thumbs on front of base with fingers around on base end panels. Force end panels in until they touch clips so rear. Now force complete base under range until clips snap over leg bolts.

### ALWAYS GIVE COMPLETE MODEL AND SERIAL NUMBERS

When requesting parts or information, always give complete model and serial numbers of your range. See figure 18. Page 21.

## Chambers

**cooks with the gas turned OFF\***